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ABSTRACT

The College Discovery and Development Program (C.D.D.P.) is a collaborative effort by the New York City Public Schools Division of High Schools and the City University of New York (CUNY). It is offered at one high school in each borough, and the program is linked with a college in the CUNY system. The C.D.D.P. offers students an enriched curriculum, guidance services, and an opportunity for on-site exposure to college activities. The goal of the program is to better prepare and motivate students in order to increase the likelihood that they will attend college. The extent to which the program was meeting its objectives was evaluated for the program years 1987-88 and 1988-89. The specific program objectives are that participants should improve by five percentage points as compared with a comparison group in these areas: attendance rate, graduation rate, college plans, and pass rates for Regents examinations, academic courses, and Regents Competency tests. The evaluation indicated that 73 percent of the 1,452 1988-89 participants planned to attend college. The participants exceeded a comparison group by five percent with regard to Regents Competency Tests, examinations, and graduation rates. Participants did not exceed the comparison group with regard to number of courses passed or attendance. (ABL)

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OREA Report

COLLEGE DISCOVERY AND DEVELOPMENT PILOT STUDY
1987-88
1988-89

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April 1990

COLLEGE DISCOVERY AND DEVELOPMENT PILOT STUDY
1987-88
1988-89

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SUMMARY

PROGRAM BACKGROUND

The College Discovery and Development Program (C.D.D.P.) emerges from a collaborative effort by the Division of High Schools and the City University of New York (CUNY). It is offered at one high school in each borough, and the program at each site is linked with a college in the CUNY system. C.D.D.P. offers students an enriched curriculum, guidance services, and an opportunity for on-site exposure to college activities. The goal of the program is to better prepare and motivate students in order to increase the likelihood that they will attend college. This report comprises an evaluation of the program implementation in 1988-89, and an evaluation of the extent to which the program is meeting its objectives in 1987-88 and 1988-89.

PROGRAM OBJECTIVES

The program objectives were revised just prior to this evaluation, and state that program participant outcomes in several areas should improve by five percentage points as compared with a comparison group. These outcome variables include attendance rate, graduation rate, college plans, and pass rates for English and mathematics Regents examinations, academic courses, and Regents Competency Tests in reading, writing, and mathematics.

PROGRAM DESCRIPTION

Because of differing conditions across C.D.D.P. schools, the basic skills level of students in the five schools is quite variable. In general, C.D.D.P. coordinators report that their students tend to be representative of, or slightly above the level of the school as a whole, with the very bottom which includes particularly poor or troubled students excluded. The curricular component of the program focuses on remediation of basic skills and enrichment in academic courses. The program also offers tutoring services in order to support this effort. Program participants receive enhanced guidance services since each guidance counselor is given half the caseload of one outside the program. In addition, the guidance office offers extensive information to help students to become informed about and select college programs. They also offer intensive support by assisting students in completing their admissions and financial aid applications. Finally, students are offered opportunities to become exposed to a college campus through programs planned jointly by college faculty and high school teachers. These programs generally combine mathematics or science with basic skills, and are offered at the college.

PROGRAM FINDINGS

Seventy-three percent of the 1,452 1988-89 C.D.D.P.

participants planned to attend college in September, 1989. Of these 52 percent planned to attend a four-year college immediately.

C.D.D.P. participants exceeded a comparison group by five percent, and thereby met its program objectives with regard to R.C.T.s, regents examinations, and graduation rates. It did not exceed the comparison group with regard to the number of courses passed or attendance.

CONCLUSIONS AND RECOMMENDATIONS

C.D.D.P. serves approximately 1,500 students in five boroughs. The profile of students served is variable across schools. The program is successful in providing a large number of its participants with college counseling and a smaller number of participants with exposure to a college campus. It was also successful in improving students' basic skills and in encouraging students to remain on a regents degree track. The program was less successful in utilizing the links with colleges to enhance classroom curriculum and in improving attendance and increasing the number of courses students passed. Based on these conclusions the following recommendations were made. OREA recognizes that the first three recommendations relate to areas funded by CUNY and thus are not solely under the control of the project coordinator:

- Incentive for participation by college faculty should be built into the program. Participation in the C.D.D.P. program by college faculty would encourage high school staff and provide program enhancement for the students.

- Pre-College Institutes should be conducted in the fall semester as well as in the spring, in order to capture student interest early in the school year and expand the opportunities for student participation.

- Summer Math and Science Institutes which have been highly successful, should be continued.

- The innovative courses that have been developed to infuse basic skills instruction into other content areas should be maintained.

- The enhanced guidance services, with a focus on college counseling, should be preserved.

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I. INTRODUCTION

The College Discovery and Development Program (C.D.D.P.), sponsored by the New York City Division of High Schools and the City University of New York (CUNY), offers underachieving students an enriched and intensified high school experience to better enable them to meet college admissions standards. The program is offered at one high school in each borough, and is available to students throughout the borough.

An ongoing effort by the program's administrators and the Office of Research, Evaluation, and Assessment (OREA) to reformulate the goals of the program coincided with a study by the New York City Board of Education's Office of Auditor General, which suggested changes in the way program effectiveness was measured. During the 1987-88 school year, OREA, in collaboration with the Director of the College Collaboratives and the Coordinator of C.D.D.P., redefined the program objectives, and during the 1988-89 school year, OREA conducted an evaluation to determine the degree to which the program was meeting its newly defined objectives. This report combines outcomes for both the 1987-88 and 1988-89 school years and evaluates implementation during 1988-89.

PROGRAM BACKGROUND

In 1964 The New York City Board of Education and CUNY collaborated to establish C.D.D.P. Since that time the program has been operating at Seward Park High School in Manhattan, Theodore Roosevelt High School in the Bronx, Thomas Jefferson

High School in Brooklyn, Jamaica High School in Queens, and Port Richmond High School in Staten Island. The programs at Seward Park, Theodore Roosevelt, and Thomas Jefferson High Schools receive Chapter 1* funds for remedial reading and mathematics, and tax-levy supplements so that students who are not eligible for these services can participate. The programs at Jamaica and Port Richmond High Schools are funded entirely through tax-levy monies.

Approximately 1,500 students participate in C.D.D.P. The main objective of the program has been to offer underachieving students with high potential an enriched educational experience, enhanced guidance services, and an opportunity to become involved with a college campus in order to better prepare them for, and motivate them to attend college. The program has always been geared towards minorities as they are underrepresented in colleges and professional jobs, and has recently placed an emphasis on encouraging minority and women students to pursue careers in mathematics and science. According to the Director of College Collaboratives the six defining components of C.D.D.P. are reduced class size, remedial classes, focus on math and science, tutoring, involvement with a college campus and enhanced guidance services.

PROGRAM OBJECTIVES

The specific objectives, revised in January, 1988 to

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*A school is eligible for federal Chapter 1 funding based on a formula that calculates the number of children in the school's attendance area in families receiving Aid to Families with Dependent Children, and the number of students in the school qualifying for free or reduced lunch.

incorporate recommendations made in the Comptroller's study were:

- The percentage of College Discovery students who graduate from high school will be five percent higher than the percentage of a comparison group of students who graduate;

- The percentage of College Discovery students who plan to attend higher education will be five percent higher than the percentage of a comparison group of students who plan to attend higher education;

- The percentage of College Discovery students who take and pass the English and mathematics Regent exams will be five percent nigher than the percentage of a comparison group of students who take and pass these exams;

- The percentage of College Discovery students who take and pass academic courses will be five percent higher than the percentage of a comparison group of students who take and pass these courses;

- The average attendance rate of College Discovery students will be five percent higher than the average attendance rate of a comparison group;

- The percentage of College Discovery students who take and pass the reading, writing, and mathematics Regents Competency Tests (R.C.T.s) will be five percent higher than the percentage of a comparison group of students who take and pass these R.C.T.s; and

- The percentage of ninth grade C.D.D.P. students who enter the program in 1987-88 and remain in high school through the twelfth grade will be five percent higher than the percentage of ninth grade comparison group students who remain in school until grade twelve. (OREA will begin tracking students in 1987-88, but full measurement of this objective will not be possible until the 1990-91 school year).*

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*A final objective, that at least 80 percent of C.D.D.P. students will pass the CUNY assessment test by the time they graduate from high school, was proposed but was not measured due to procedural difficulties between the Board of Education and CUNY. This objective was, at the time it was proposed, subject to the Board of Educations's receiving CUNY's permission to use their assessment test.

EVALUATION METHODOLOGY

An OREA evaluator conducted extensive interviews with the administrators of C.D.D.P. in 1988-89 in order to understand the history, structure and current objectives of the program. The evaluator also conducted a telephone interview with the program coordinator at each site in order to determine the appropriate selection factors to be used in developing a comparison group against which to compare C.D.D.P. participants, and visited each program at least once in 1988-89 to evaluate the implementation of the program and the extent to which it was meeting its objectives. OREA evaluated student perceptions of the program by distributing questionnaires to approximately one-third of the program participants. Finally, OREA compared students participating in C.D.D.P. during 1987-88 and 1988-89 to a computer-generated comparison group of students equated for prior reading level, grade and attendance to determine the degree to which the program objectives were met.

SCOPE OF THIS REPORT

Chapter II of this report describes the implementation of the program. Chapter III presents the outcome measures that reveal the extent to which program objectives were met, and Chapter IV provides conclusions and recommendations based on the various outcome measures.

II. PROGRAM IMPLEMENTATION

PROGRAM STRUCTURE

C.D.D.P. is one of several projects sponsored by the Office of College Collaboratives. It is administered by a project coordinator who is based at a central C.D.D.P. office. This office administers the program, maintains student rosters, serves as the center through which program policies are generated and modified, and issues an annual report containing quantitative data describing the college admissions status of program graduates. The project coordinator, with some consultation from the Dean in CUNY's Office of Special Programs also administers the collaboration with CUNY and generates many of the ideas for the programs offered jointly by the colleges and high schools.

Each of five program coordinators is based at a high school in a different borough, and is responsible for the implementation of the program at his or her school. In addition, two guidance counselors at each school serve program participants exclusively.

RECRUITMENT OF STUDENTS

Students must file an application to be admitted to high school. Every student has a seat in his or her zoned high school, but some zoned high schools also offer special programs which may be available to students who live in the zone, or in some cases, to students who live outside the zone. Students may request admission to these special programs or to a total educational options high school, specialized high school, vocational-technical high school or alternative high school.

C.D.D.P. is a special program listed on the high school application that is offered to students in their borough of residence.

The C.D.D.P. program coordinator and guidance counselors recruit students from other schools by communicating with intermediate and junior high school guidance counselors and administrators. Students are recruited from within the school based on recommendations from teachers, guidance counselors and administrators. In some schools, where all students are assigned to one or another program (i.e., there is little or no mainstream) all students are systematically evaluated for placement in a program.

C.D.D.P. staff evaluate applicants and generate a priority list which provides the basis for admission. Coordinators use a variety of criteria in an attempt to admit underachieving students with college potential. The most widely used criterion is a discrepancy between standardized reading test scores (e.g., the Degrees of Reading Power Test) and grades. Thus, students who, despite on or above level reading scores, obtain low grades, or students who, despite low reading scores, obtain good grades, are targeted for admission. Generally, students with reading scores well below the state reference point, those with excessive unexplained absences or serious behavior problems are not admitted.

The profile of the students that ultimately participate in C.D.D.P. varies widely across schools and depends on the overall

appeal of the school compared to other schools in the borough, other special programs available in the school and the borough, and the extent to which students in the school are channeled into specific programs. Table 1 presents the percentages of students at each school attending the school closest to home as indicated by students' responses on the questionnaire. Fifty-six percent of students in C.D.D.P. were attending the school closest to their homes, while 35 percent were not, and nine percent didn't know whether or not they were attending the school closest to their homes. A greater proportion of the students at Port Richmond and Seward Park High Schools (67 and 65 percent, respectively) were attending the school closest to their homes. In contrast, only 25 percent of the students at Jamaica High School were attending the school closest to their homes.

Port Richmond High School is more limited in the students it is able to recruit. Special regulations from the Office of the Superintendent dictate that they may not accept more than 20 out-of-zone students per year, and may not accept any minority students from the Totenville or New Dorp High School districts.

Because high schools in Manhattan are largely specialized or educational options schools or schools with educational options programs, they are non-zoned, and students are permitted to select the high school they wish to attend; they are not assigned to schools on the basis of residence. The program coordinator at Seward Park High School reports that many appropriate C.D.D.P. participants attend Murry Bergtraum or

Table 1

Summary of the Location of the High School Students Attend by School

School	Attend School: Closest to home N	%	Not Closest N	%	Don't know N	%
Theodore Roosevelt	89	53	60	36	19	11
Port Richmond	57	67	18	21	10	12
Seward Park	68	65	31	30	5	5
Thomas Jefferson	32	60	18	34	3	7
Jamaica	14	25	39	68	4	7
Combined	260	56	166	36	41	9

- C.D.D.P. at Jamaica High School attracts a larger percentage of students from outside the catchment area than the other four schools.

Humanities High Schools because of misconceptions about what these schools, as opposed to Seward Park High School have to offer.

Because of differing conditions across C.D.D.P. schools, the basic skills level of students in the five programs is quite variable. For example, at Jamaica and Port Richmond High Schools most students score above the state reference point in reading, whereas at Seward Park, Jefferson and Roosevelt High Schools, most students' basic skills scores are below grade level, indicating a need for remediation. Despite these differences in absolute level, the relative standing of C.D.D.P. students to other students in their respective schools is similar. In general, C.D.D.P. coordinators report that their students tend to be about representative of, or slightly above the level of the school as a whole, with the very bottom, which includes particularly poor or troubled students, omitted.

PROGRAM DESCRIPTION

Curriculum

The program of courses offered to students through C.D.D.P. fulfills the requirements of a high school diploma with Regents endorsement.* In general, students are programmed in blocks (i.e., classes consist of participating students only). Students' schedules become more constrained in the eleventh and

*Diplomas may be granted with Regents endorsement to students who meet the requirements for a high school diploma and pass New York State Regents Examinations in English, American History and Government, second language and a selected area of concentration, and two Regents Examinations in mathematics and science.

twelfth grades, and consequently students in individual programs tend to become integrated with those in mainstream at that point. Frequently, advanced math classes, honors courses, or occasionally language or special interest courses (e.g., French and second-semester Accounting at Jamaica High School) are not offered through C.D.D.P., but interested students may take these courses outside the program. Finally, some courses, informally referred to as C.D.D.P.-supported courses, comprise a significant portion of C.D.D.P. students. For example, approximately 50 percent of the students enrolled in a special drama studies course at Seward Park High School are C.D.D.P. participants. These courses are developed by the individual schools, but the decision to involve C.D.D.P. students is made by the program coordinator at the school, and is based on the philosophy and objectives of the program.

C.D.D.P. provides an enhanced curriculum by offering some courses that combine instruction in basic skills with other content areas. For example, a double-period biology course, co-taught by a biology teacher and an English teacher, has been instituted at all five schools. It uses the biology content matter as the basis for writing exercises. A double-period math course that combines remediation and Sequential Mathematics is offered at Theodore Roosevelt and Thomas Jefferson High Schools.

Frequently, C.D.D.P. program coordinators continue this approach by taking advantage of special courses offered at their schools. The drama studies course at Seward Park High School

teaches history through drama, and C.D.D.P. students participate in a special three-term math sequence, offered at Jamaica High School. Port Richmond High School offers special writing courses and a math skills course designed to prepare students for the CUNY Assessment Test.

Some science teachers have attempted to enrich science courses by collaborating with college faculty to develop units related to laboratory research. At least one of these attempts has been unsuccessful because of the limited participation of a college faculty member. Specifically, the program coordinator at Port Richmond High School designed a biology unit on metabolic science. A college faculty member had agreed to share responsibility for delivering the program by attending the classes once each week, but in fact, only attended on two occasions. The hamster to be used in the experiment died, and the program had to be cancelled. This project coordinator has proposed several other collaborative programs, but reports that they have not been implemented because of lack of interest on the part of the college.

These special courses, when successfully implemented, fulfill the dual purpose of providing an enriched educational experience and encouraging students to remain on a Regents' degree track. The C.D.D.P. coordinator at Jamaica High School reported that enrollments from her program filled two chemistry classes, and she believes this is evidence of the program's success in keeping students on a Regents' track. Typically nine

percent of students at this school enroll in chemistry, whereas 12 percent of C.D.D.P. students were enrolled in this course. Similarly, at Seward Park High School 25 percent of the C.D.D.P. seniors enrolled in advanced Placement Social Studies; six percent of non-C.D.D.P. seniors enrolled in this course. Moreover, 25 percent of C.D.D.P. seniors took Advanced Placement Chemistry, compared to 11 percent of non-C.D.D.P. seniors. At Roosevelt High School the program coordinator expressed disappointment at how few students there have remained on a Regents' degree track; the double-period biology course at this school is shared equally by C.D.D.P. and the Honors program.

OREA asked students to rate their interest in individual subject areas when they started the program and currently. Table 2 presents their responses for each subject area. In general, student interest in these areas remained the same. Students currently in the ninth or tenth grades have a higher ratio of positive to negative ratings for math and science than do juniors and seniors. This may reflect differences in students over time, or it may reflect the fact that students actually lose interest in these subject areas over the course of their high school experience. OREA's ongoing evaluation of this program will track students' ratings of their interest and future plans over their tenure in the program.

A tutoring component, in which college students were to tutor C.D.D.P. participants, was originally planned for this program with the intention of offering curricular support to

Table 2

Students' Ratings of Their Past and Current Interest in Various Subject Areas

	Percentage of Students:					
	Very Interested		Somewhat Interested		Not Interested	
Subject Area	Past	Present	Past	Present	Past	Present
Literature	20.9	24.1	53.6	47.2	20.7	20.1
Writing	32.7	36.5	51.3	41.7	13.0	14.1
Mathematics	37.4	36.1	37.4	33.5	22.9	24.1
Science	37.8	39.5	41.5	33.8	17.7	19.0
Computer Science	25.6	27.4	34.6	30.1	29.5	29.5
Social Studies	34.0	35.5	41.5	38.0	20.7	18.8
Business	37.8	40.2	35.9	31.0	17.1	16.9
Technical/ Vocational	17.9	19.0	31.8	28.6	37.8	35.9
Secretarial	17.5	17.5	25.4	26.7	46.4	40.2

- About 75 percent of students are interested in academic and business subject areas, and about 45 percent are interested in technical/vocational and secretarial subject areas.
- Students do not perceive a change in their interest in various subject areas over the time that they have been in C.D.D.P.

C.D.D.P. This aspect of the program was never implemented because the college students had the option of tutoring on campus, and were therefore unwilling to travel to the high schools. CUNY funds have been used to pay high school students to tutor program participants. In addition, students in C.D.D.P. have access to tutors through various school-wide programs.

Questionnaire respondents were asked whether they had received tutoring in the past year in particular subject areas. Fifty-five percent of students report that they did not receive any tutoring services in the past year. Fifty-seven percent of students said tutoring was available sometimes or whenever needed, and 29 percent said it was rarely or never available. Of those who reported receiving tutoring, 27 percent of students reported receiving tutoring in math, 13 percent received tutoring in science, two percent received tutoring in computer science, six percent received tutoring in English and five percent received tutoring in social studies. Eighty-three percent of students who received tutoring found it to be helpful and 17 percent did not.

Links With Colleges

The C.D.D.P. at each of the five schools is linked to a specific college in the CUNY system. Table 3 lists the five high school sites, and for each, indicates the college with which the program is linked and the number of students participating in the program.

The most successful component of the collaboration with

Table 3

Summary of College Affiliation and the Number of Program Students by School

High School	College	Number of Students[a]
Jamaica	La Guardia College	300
Port Richmond	College of Staten Island	285
Thomas Jefferson	New York Technical College	235
Theodore Roosevelt	Lehman College	420
Seward Park	Borough of Manhattan Community College	340
Total		1,580

[a] This number is based on September, 1988 data.

- Each high school was affiliated with a specific college and served from 235 to 420 students.

colleges has been the development of Pre-College Institutes (P.C.I.s) and Summer Math and Science Institutes (S.M.S.I.s). The individual institute programs emerge from a collaborative effort between the high school coordinator and/or teachers and the college faculty. P.C.I.s are conducted once each spring, on a Saturday, and S.M.S.I.s are conducted four days per week over the course of four weeks during the summer. All institute programs take place at the colleges, and each pursues a topic (usually in math or science) by offering hands-on experience in a research laboratory or computer center. For example, an institute offered by Jamaica High School, in collaboration with La Guardia College, presented a unit on animal nutrition. Students studied the diet of laboratory animals, and learned to use metabolic chambers to measure food intake and energy expenditure. The program included a language arts component, in which students conducted a video-taped interview with the college professor in charge of the laboratory. P.C.I.s have been rated as highly successful by the teachers and the students who attended them, but they reach a relatively small number of students (typically 20-35 students attend an institute). Some coordinators (e.g., at T. Roosevelt) claim that despite extensive outreach efforts it is difficult to recruit students for participation in the institutes. This coordinator suggested that offering an additional P.C.I. during the fall semester might capture the students' interest earlier in the school year. The program coordinator at T. Roosevelt High School reported that two P.C.I.s had been planned, but both were

cancelled because only 22 student participants were recruited; the college required an enrollment of 40. In this case the program was designed by the college faculty, and according to the project coordinator, didn't capture the interest of high school students.

As described above, collaborative efforts to enrich the curriculum in the high school classroom have been less successful. In many instances the program coordinators expressed disappointment over the limited involvement of college faculty in special classroom projects. C.D.D.P. does not offer any incentive for faculty participation, and this may explain why activities that take place away from the campus, and involve a significant time commitment, are difficult to implement.

Other attempts to expose students to college campuses include tours of campuses, attendance at college fairs and posting and circulating literature describing college programs. Finally, the C.D.D.P. staff is well-informed about admissions policies and procedures, and the kinds of programs offered at various colleges.

Guidance

The enhanced guidance component of C.D.D.P. consists mainly of an improved ratio of counselors to students, and counselors with special expertise and knowledge about college programs, standards and admissions policies. There is one guidance counselor for every 150 students in C.D.D.P. Thus, guidance counselors in this program carry half the student load of those

in mainstream or programs without guidance enrichment. This is double the ratio for mainstream students. Students tend to be assigned to guidance counselors on the basis of either grade or homeroom section. At Port Richmond, a student generally has the same counselor for his/her entire high school career, whereas at the other schools, students change counselors in a systematic fashion. All the sites have two counselors, and most students know them both. When students seek counseling for personal problems, they are generally free to select the counselor of their choice. Often the counselors have different specialties, and students select them, or are encouraged to see them accordingly.

Guidance counselors help students with home, school and social problems, offer vocational advice, and direct students to appropriate services for health-related problems. They offer extensive college advising services, including assistance with college applications and financial aid forms.

OREA's student questionnaire inquired about how students use counseling services. Respondents indicated that they have utilized these services for college and career counseling (54 percent) and to discuss problems with school (23 percent), families (16 percent), peers (nine percent), human sexuality (seven percent), drugs (four percent), and other matters (13 percent). Special school-wide guidance services such as SPARK and school-based support team (social work) are available to C.D.D.P. students as well. At Jamaica High School some special

programs are available to C.D.D.P. students. They include CHOICES, a program sponsored by New York Telephone which focuses on freshman to assist them in making decisions and appropriate judgments on their day-to-day activities, and a study skills class which is a component of the double-period Biology class, a values group and a study group.

III. OUTCOMES

Quantitative data used to assess the efficacy of the College Discovery and Development Program were obtained from three sources. The project director provided the names and other biographical information on students participating in C.D.D.P. during the 1987-88 and 1988-89 school years, respectively. OREA obtained attendance, test scores and other outcome data on C.D.D.P. participants and a comparison group of non-participants from its high school database. Data from these two sources were combined and used in the analyses of all but one of the program outcomes. Outcomes for the 1987-88 and 1988-89 school years are reported separately.

Outcomes regarding C.D.D.P. students' plans to obtain higher education after graduation are based on responses to a questionnaire developed by OREA, which evaluated students' experiences and perspectives of the program. This questionnaire was administered during the 1988-89 school year. Because this piece of outcome data was obtained from a different source it is presented first.

PLANS TO OBTAIN HIGHER EDUCATION

One program objective stated that the percentage of C.D.D.P. students who plan to attend higher education will be five percent higher than that of the percentage of the comparison group students. Information about students' plans can only be obtained from a questionnaire. This information could not be obtained

from a computer-generated comparison group.* Consequently, data on students' plans for higher education were obtained solely from program participants.

Of the 136 graduating seniors sampled in the questionnaire during the spring of 1989, 99 (73 percent) planned to attend college. Of these, 71 (52 percent) planned to attend a four-year college, and 28 (21 percent) planned to attend a two-year college. Six of the 28 students (four percent of the sample) indicated that they ultimately planned to attend a four-year college. Six students (four percent) planned to attend vocational school. Although 44 students (32 percent) indicated that they planned to obtain employment in September, only 19 (14 percent of all cases) plan not to attend college at the same time.

CREATION OF GROUPS

Students in each of the five C.D.D.P. schools were selected for the C.D.D.P or comparison group based on a number of criteria.

C.D.D.P. Groups

C.D.D.P. students were selected for the participant group if they were identified by the project director as being in the program and were enrolled in school for any time during the 1987-

*A computer-generated comparison group consists of students who are not physically grouped together. Constructing a representative sample of such a group would not be possible. Moreover, the measures OREA uses to preserve anonymity of questionnaire respondents would be compromised by any selection procedure needed to distribute questionnaires to this group.

88 school year. Similarly, students were classified as 1988-89 C.D.D.P. participants if they were identified by the project director and had been enrolled in school for any time during the 1988-89 school year.

Comparison Groups

Comparison group students were selected on the basis of the similarity of their attendance and Degrees of Reading Power test scores to those of C.D.D.P. students in 1986-87 and 1987-88. It should be noted that 1986-87 data were used to construct comparison groups for the 1987-88 school year, and 1987-88 data were utilized in constructing comparison groups for the 1988-89 school year. Comparison group students were selected on a school-by-school basis.

The 1987-88 attendance of C.D.D.P. students ranged from 95.8 percent at Seward Park High School to 84.5 percent at Thomas Jefferson High School. A similar range in pre-program attendance is evident for the 1988-89 group as well (Seward Park = 93.8 percent, Theodore Roosevelt = 82.5 percent). For this reason, comparison groups were constructed separately for each school to insure that the level of attendance and D.R.P. mid-instructional level scores of the comparison group, the year prior to the comparison of outcomes, was similar to that of C.D.D.P. participants.

Pre-program attendance rates for 1987-88 C.D.D.P. students and their comparison groups are presented by school in Table 4. Similar statistics for 1988-89 C.D.D.P participants and their

Table 4

A Summary of Pre-program Attendance of 1987-88 C.D.D.P. Participants and their Comparison Groups by School

School	1986-87 Percentage Attendance					
	C.D.D.P. Group			Comparison Group		
	N	M	S.D.	N	M	S.D.
Seward Park	200	95.8	6.4	1,725	94.4	6.4
T. Roosevelt	188	86.8	10.5	1,518	86.6	10.2
T. Jefferson	233	84.5	14.0	783	84.6	10.4
Jamaica	214	89.6	10.0	1,487	90.6	9.1
Port Richmond	236	90.9	7.6	1,225	89.4	6.7
Combined[a]	1,116	89.3	10.9	6,768	89.7	9.2

[a] Forty-five students were missing school information. Consequently the combined number of students is greater than the sum of the individual schools.

- The attendance rates of 1987-88 C.D.D.P. students and their comparison group were constructed so that they were, an average, within one point of each other.

comparison groups appear in Table 5. As these tables indicate, the percentage attendance rates of C.D.D.P. students and the comparison group at their school were essentially the same. Attendance rates differed by less than two points. In all cases, the standard deviations of scores for C.D.D.P. and comparison group students were very similar.*

Mid-instructional level D.R.P. scores were also used in the creation of the comparison group. Pre-program D.R.P. scores are presented by school for 1987-88 and 1988-89 C.D.D.P. participants and the comparison group in Tables 6 and 7 respectively. As shown in these tables, average D.R.P. scores of C.D.D.P. participants and the comparison group were within two points of each other during both years.

OREA designed the comparison groups so that, on average, their attendance and D.R.P. test scores were very similar to those of C.D.D.P. participants. In this way program outcomes could be compared for C.D.D.P. participants and a group of non-participants that had similar attendance and reading scores the year prior to the one in question.

GRADE BREAKDOWN

The C.D.D.P. participant rosters indicated that 1,575 students took part in the program in 1987-88 and 1,452 participated in 1988-89. Grade information was available for 83

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*In order to construct comparison groups that were similar to C.D.D.P. students, OREA deleted attendance scores for students in the comparison group at the low end to compensate for the fact that the C.D.D.P. program contained more students with "good" attendance than was true in the regular school population.

Table 5

A Summary of Pre-Program Attendance of 1988-89 C.D.D.P. Participants and Their Comparison Groups by School

School	1987-88 Percentage Attendance					
	C.D.D.P. Group			Comparison Group		
	N	M	S.D.	N	M	S.D.
Seward Park	212	93.8	7.8	2,560	93.6	7.1
T. Roosevelt	89	82.5	14.5	644	82.7	12.2
T. Jefferson	231	86.5	13.4	1,205	85.8	10.0
Jamaica	283	90.9	8.6	2,524	90.5	9.3
Port Richmond	233	90.0	6.9	1,916	88.5	6.8
Combined[a]	1,091	89.1	11.2	8,849	89.7	9.2

[a] Forty-three students were missing school information. Consequently, the combined number of students is greater than the sum of the individual schools.

- The attendance rates of 1988-89 C.D.D.P. students and their comparison group were constructed so that they were, on average, within one point of each other.

Table 6

A Summary of Pre-Program Degrees of Reading Power (D.R.P.) Test Scores for 1987-88 C.D.D.P. Participants and their Comparison Groups by School

School	1986-87 Mid-Instructional Level D.R.P. Scores C.D.D.P. Group N	M	S.D.	Comparison Group N	M	S.D.
Seward Park	267	67.9	12.0	878	65.1	15.0
T. Roosevelt	147	64.2	11.1	1,123	59.0	15.0
T. Jefferson	159	68.1	11.0	681	59.1	11.0
Jamaica	188	73.3	11.1	1,251	73.9	15.2
Port Richmond	216	73.3	11.6	1,157	74.1	14.8
Combined[a]	1,348	66.3	11.1	6,761	64.2	15.2

[a] Several students were missing school and/or D.R.P. score information. Consequently, the combined number of students is greater than the sum of the individual schools.

- Overall the average D.R.P. mid-instructional level scores of C.D.D.P. participants and the comparison group were within two points of each other.

Table 7

A Summary of Pre-Program Degrees of Reading Power (D.R.P.) Test Scores for 1988-89 C.D.D.P. Participants and their Comparison Groups by School

School	1987-88 Mid-Instructional Level D.R.P. Scores C.D.D.P. Group N	M	S.D.	Comparison Group N	M	S.D.
Seward Park	134	66.6	11.3	840	62.6	14.5
T. Roosevelt	205	63.8	11.1	1,271	58.2	13.2
T. Jefferson	164	64.2	10.8	768	59.4	11.5
Jamaica	190	73.1	10.8	1,201	71.4	14.1
Port Richmond	160	72.4	9.6	1,059	73.0	13.8
Combined[a]	1,103	67.0	12.6	6,627	65.0	15.7

[a] Several students were missing school and/or D.R.P. score information. Consequently, the combined number of students is greater than the sum of the individual schools.

- Overall the average D.R.P. mid-instructional level scores of C.D.D.P. participants and the comparison group were within two points of each other.

percent of the 1987-88 participants and 84 percent of the 1988-89 participants. A summary of the percentage of C.D.D.P. students and the comparison group in each grade for both years appears in Table 8. As illustrated in this table, the breakdown between C.D.D.P. participants and the comparison group was very similar in all grades but the twelfth. In both 1987-88 and 1988-89 roughly 39 percent of C.D.D.P. and comparison group students were listed as being in the ninth grade; about 33 percent of both groups were reported to be in the tenth grade in both years as well. About 25 percent were eleventh graders.

GRADUATION RATES

The program objective stipulated that the percentage of C.D.D.P. students who graduated from high school would be five percent higher than the percentage of comparison group students who graduated. This objective was met in both years. In 1987-88, 84.2 percent of C.D.D.P. twelfth graders graduated as compared with only 64.4 percent of the comparison group. The following year 82.9 percent of the program participants graduated as compared to only 77.5 percent of the comparison group.

REGENTS EXAMINATIONS

The regents objectives pertained to both English and math. The objective stated that the percentage of C.D.D.P. students who take and pass the English and mathematics regents exams will be five percent higher than the percentage of comparison group students who take and pass these exams. As indicated in Table 9 a higher percentage of C.D.D.P. than comparison group students

Table 8

A Summary of the Percentage
of C.D.D.P. Participants and Comparison
Group Students By Grade

	1987-88				1988-89			
	C.D.D.P.		Comparison Group		C.D.D.P.		Comparison Group	
Grade[a]	M	N	M	N	M	N	M	N
Ninth	39.1	513	38.8	3,347	38.6	470	34.6	3,804
Tenth	33.7	442	33.0	2,845	33.4	407	26.6	2,924
Eleventh	26.8	351	22.9	1,977	26.3	321	24.5	2,690
Twelfth	*	5	5.4	464	1.7	21	14.3	1,567
Total[b]	99.6	1,311	100.1	8,633	100.0	1,219	100.0	10,985

*An asterisk equals less than one percent.

[a]Grade information was available for 83 percent of 1987-88 participants and 84 percent of 1988-89 participants.

[b]Totals may not equal 100 percent due to rounding.

- The breakdown between C.D.D.P. participants and the comparison group was very similar in all grades but the twelfth.

Table 9

A Summary of the
Number and Percent of Participants Taking
and Passing Regents Examinations

	C.D.D.P. (1,575)				Comparison Group (11,128)			
	English		Math		English		Math	
	N	%	N	%	N	%	N	%
1987-88 Participants								
Students taking Regents exams	233	15	352	22	1,147	10	1,876	17
Students passing Regents exams	106	7	188	12	668	6	1,220	11
1988-89 Participants								
Students taking Regents exams	166	11	295	20	37	6	1,926	14
Students passing Regents exams	106	7	136	9	580	4	1,257	9

- During both years, C.D.D.P. participants took and passed Regents English and math exams more often than the comparison group.

took English and math regents in 1987-88 and 1988-89. In each case the percent of C.D.D.P. students taking a regents examination exceeded that of the comparison group by more than five percent. For example, for the 1987-88 group, 22 percent of C.D.D.P. and 17 percent of comparison group students took a math regents. The objective would have required 17.9 percent (.05 x 17= .9; 17 + .9 = 17.9) of C.D.D.P. students take the examination.

As is also indicated in Table 9 the percent of students who passed the regents examinations was higher for C.D.D.P, than comparison group students. This was true for both English and math examinations in both 1987-88 and 1988-89. In each case, the percent of C.D.D.P. students passing a regents exceeded that of the comparison group by more than five percent. Thus, the program exceeded both parts of this objective, (number of students taking regents examinations and number of students passing regents examinations).

COURSES PASSED

The courses passed objective states that the percentage of C.D.D.P. students who take and pass credit-bearing courses will be five percent higher than the percentage of comparison group students who take and pass these courses. The course data indicate no meaningful differences in the percentage of courses passed by C.D.D.P. students in either 1987-88 (*M*=75.6, *S.D.*=26.3) or 1988-89 (*M*=75.6, *S.D.*=26.3) as compared with comparison group students (1987-88: *M*=74.6, *S.D.*=28.6; 1988-89: *M*=76.1,

S.D.=26.7). Both groups passed roughly three-fourths of their courses during both years.

ATTENDANCE

Similarly to the courses passed objective, the attendance objective states that the average attendance rate of C.D.D.P. students will be five percent higher than the average attendance of the comparison group. Attendance data show a slight trend toward higher percentage attendance by C.D.D.P. students (M= 87.1. S.D.=14.4) in 1987-88 as compared with the comparison group (M=86.3, S.D.=16.2). However, this positive difference is less than the five percent stipulated in the objective. In 1988-89, the attendance rates of C.D.D.P. students and those of the comparison group were virtually identical (C.D.D.P.: M=85.8, S.D.=14.8; comparison group: M=85.6, S.D.=16.4). In neither case was the objective met.

Interestingly 1987-88 C.D.D.P. students (M=85.2, S.D.=16.2) and the comparison group (M=84.6, S.D.=17.6) maintained their high attendance the following year.

REGENTS COMPETENCY TESTS

The Regents Competency Test (R.C.T.) objective stipulates that the percentage of C.D.D.P. students who take and pass the reading, writing, and mathematics R.C.T.s. will be five percent higher than the percentage of comparison group students who take and pass the R.C.T.s. OREA examined the R.C.T. results for each of the three tests separately. In 1987-88, 91.9 percent of C.D.D.P. students, but only 70.5 percent of comparison group

students passed the reading R.C.T. This difference surpasses the program's evaluation objective for reading. Similarly, 61.1 percent of C.D.D.P. participants passed the math R.C.T. as compared with only 51.2 percent of comparison group students, again surpassing the evaluation objective. Finally, a similar finding was noted in writing where 86.1 percent of C.D.D.P. students but only 76.0 percent of comparison group students passed the R.C.T.

Superior performance on the R.C.T.s among C.D.D.P. participants held for 1988-89 participants as well. In reading 91.5 percent of C.D.D.P. students passed the R.C.T. as compared with only 75.8 percent of comparison group students. Again, in math, the R.C.T. pass rate was 60.8 percent for C.D.D.P. students and only 50.0 percent for comparison group students. In writing the pass rates were 83.6 percent among C.D.D.P. students and 77.5 among comparison group students.

RETENTION RATES

The percentage of ninth grade C.D.D.P. students who enter the program in 1987-88 and remain in high school through the twelfth grade will be tracked annually. As of June 1988, 86.2 percent of C.D.D.P. ninth graders were listed as being in school. The following year, as of June 1989, 86.9 percent of C.D.D.P. tenth graders but only 63.3 percent of the comparison group were listed as still enrolled in school. Clearly, program participants are well on their way to meeting this objective. Full measurement of the objective will not be possible until the

1990-91 school year (when C.D.D.P. participants who began the program in 1987-88 are scheduled to enter the twelfth grade.)

IV. CONCLUSIONS AND RECOMMENDATIONS

The College Discovery and Development Program serves approximately 1,500 students in five boroughs. The extent to which the program attracts students from outside the local school district varies across schools with Jamaica High School attracting the largest percentage of students from outside its area and Thomas Jefferson and Seward Park High Schools attracting the smallest percentage.*

Most of the students in the program describe themselves as having been interested in academic subject areas prior to their entry into the program. They maintain, but do not report an increase in that interest throughout their stay in the program.

The program has been successful in improving the basic skills of students. The high school teaching staff has developed many innovative courses that infuse basic skills into other subject areas and, in collaboration with college faculty, have developed the institute programs, which combine basic skills instruction with an innovative science or math project that takes place on the college campus. Since the institutes have the capacity to reach about 25 percent of the students in any one year, most students who remain in the program for three or four years should have an opportunity to participate in one institute.

The success of these efforts towards improving basic skills

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*Note that Port Richmond High School is discounted because of the geographical constraints placed on its recruitment procedures.

is evident in the program's overwhelming success in surpassing its R.C.T. objective. The percent of C.D.D.P. students who pass these exams consistently exceeds that of the comparison group by 10 to 20 percentage points. The program has also been successful in encouraging students to remain on a regents degree track, as measured by its exceeding its regents exam objective. In both 1987-88 and 1988-89 C.D.D.P. participants took and passed regents examinations in English and math at a consistently higher rate than those not in the program. C.D.D.P. students also graduated at a higher rate than comparison group students during both years of the study. However, C.D.D.P. students did not pass more credit-bearing courses or exhibit better attendance than those in the comparison group. The failure to meet the attendance objective should be viewed in the context of the relatively high initial rates of attendance seen in both C.D.D.P. participants and in the comparison group.

The original plan to capitalize on the link with colleges to obtain tutoring services from college students has not been implemented and does not appear to be feasible. Despite this, the program has been successful in delivering tutoring services from other sources to most students who request them, and the students perceive these services as helpful. This has been accomplished largely by using other services and utilizing some available C.D.D.P. funds to pay high school tutors.

One important feature of C.D.D.P. is the enhanced guidance services. These services are utilized by a large percentage of

students, and the specialized service aimed at informing students about college programs and helping them complete applications and financial aid forms is utilized by more than half the students.

The contribution of college faculty to curricular enhancement has been somewhat disappointing. The institute programs, which provide enrichment in science and basic skills, and are the result of a collaborative effort between the high school and the college faculty, constitute the main programmatic contribution by the college faculty. They have been rated very highly by teachers and students who participate. This indicates that when they participate, the college faculty enhance the program; however, the extent of their involvement is quite limited. This shortchanges the program and dampens the morale of the high school teachers who attempt to develop these innovative collaborations. According to the high school teachers, the college faculty are limited in the time they have available to contribute to the program.

The Pre-College Institutes, which take place in the spring, have been successful among those students who participate. Teachers report that they provide a strong incentive for students. Some of the schools have reported difficulty in recruiting students for these highly beneficial programs, and some of the program directors have suggested that the institutes take place in the fall in order to capture the interest of students earlier in the school year.

In all, about 75 percent of the twelfth grade students in C.D.D.P. plan to attend college, and according to the 1988-89

Annual Statistical Report by the project director, all these students have been accepted to colleges.

In light of these findings the following specific recommendations are made. OREA recognizes that the first three recommendations relate to areas funded by CUNY and thus are not solely under the control of the project coordinator:

- Incentive for participation by college faculty should be built into the program. This would encourage high school staff and provide program enhancement for the students;
- Pre-College Institutes should be conducted in the fall semester as well as in the spring, in order to capture student interest early in the school year and expand the opportunities for student participation.
- Summer Math and Science Institutes which have been highly successful, should be continued.
- A formal plan for channeling C.D.D.P. funds towards high school tutors should be developed.
- The innovative courses that have been developed to infuse basic skills instruction into other content areas should be maintained.
- The enhanced guidance services, with a focus on college counseling, should be preserved.